Fact Sheet
July 2004

DTSC Provides Responses to Community Questions

DEPARTMENT OF TOXIC SUBSTANCES CONTROL

LAWRENCE BERKELEY NATIONAL LABORATORY

DTSC is one of six Boards and Departments within the California Environmental Protection Agency. The Department's mission is to restore, protect and enhance the environment, to ensure public health, environmental quality and economic vitality, by regulating hazardous waste, conducting and overseeing cleanups, and developing and promoting pollution prevention.

State of California

California Environmental Protection Agency

Community survey results about the Berkeley Lab and the Department of Toxic Substances Control

In the spring of 2004, the Department of Toxic Substances Control (DTSC) mailed a survey to over 2,000 community members surrounding the Lawrence Berkeley National Laboratory (Berkeley Lab). The survey was intended to learn the community's interest on the environmental investigations and cleanup activities at the Berkeley Lab. Some survey responses were returned with specific questions regarding ongoing cleanup. This fact sheet provides information to address these basic questions. For more information about DTSC or Berkeley Lab, please refer to the contacts at the end of this fact sheet.

What does the Department of Toxic Substances Control do?

As a department in the California Environmental Protection Agency, DTSC is responsible for enforcing hazardous waste regulations in California. In addition to overseeing current hazardous waste storage and treatment activities as detailed in the laws and permits, we also oversee hazardous waste cleanup activities of releases that occurred in the past that still need to be addressed. We work with two other agencies that also have regulatory roles at the site: (1) the San Francisco Regional Water Quality Control Board and (2) the City of Berkeley.

Lawrence Berkeley National Laboratory

What does the Berkeley Lab do?

Lawrence Berkeley National Laboratory (Berkeley Lab) is a multi-program national laboratory managed by the University of California for the U.S. Department of Energy (DOE). Berkeley Lab performs research in the biological, physical, materials, chemical, energy and computing sciences and operates four unique user facilities: (1) the Advanced Light Source, (2) the National Center for Electron Microscopy, (3) the National Energy Research Scientific Computing Center, and (4) the 88-Inch Cyclotron.

How did hazardous chemicals get in the soil or groundwater?

Berkeley Lab began research activities at its present location during the 1940s. As a result of past operations, hazardous materials such as degreasers and petroleum products were released to soil and groundwater, primarily by spills and leaks in piping systems. Berkeley Lab now has improved operational control systems and practices to prevent spills and unwanted releases. Still, some chemicals from these historical releases remain in the soil and groundwater. In 1993, Berkeley Lab was issued a hazardous waste facility permit and, as a condition of that permit, was required to investigate and address all historical releases of hazardous waste and chemicals that may have occurred at the site.

What chemicals have been released into the soil or groundwater at Berkeley Lab?

In general, the contaminants found in soil and groundwater consist of industrial solvents, such as degreasers used in machine shops, petroleum products, and polychlorinated biphenyl compounds (PCBs) used in transformers and hydraulic systems. Table 1(page 3) lists the chemicals we are most interested in. Further details of Berkeley Lab's Environmental Restoration Program are given in documents maintained at the Berkeley Public Library. The following is further information about these releases.

Chemicals found in soils

The Berkeley Lab has identified four areas that have chemicals in the soil and require cleanup. Two of these areas have already been cleaned up. None of these areas extend past the boundaries of Berkeley Lab and they do not pose an immediate threat to the health of the public or Lab employees. Some immediate measures have already been taken in the remaining areas to prevent the spread of contamination. Berkeley Lab has evaluated various cleanup methods and has made recommendations of the best ways to adequately clean each area of soil contamination. These recommendations are included in a document called a Corrective Measures Study Report, which is currently available at the Berkeley Public Library. We will notify the public when the public comment period begins for this document.

Chemicals found in groundwater

In addition to the areas of soil contamination, Berkeley Lab has identified eleven areas where chemicals have reached groundwater and may require cleanup. The proposed cleanup measures for groundwater are also be addressed in the draft CMS Report. The groundwater below Berkeley Lab is not used for drinking water. Certain groundwater areas at the Lab may satisfy the Regional Water Quality Control Board's criteria for potential source of drinking water, however, and needs to be cleaned to drinking water standards. The drinking water supplied to Berkeley residents comes from the Mokelumne River in the Sierra foothills. For more information on the local drinking water supply, one can contact the East Bay Municipal Utility District at 510-287-1380.

TABLE 1

Chemicals That Have Been Found at Lawrence Berkeley National Laboratory

The principal chemicals that have been found in soil and groundwater at LBNL are in a group called Volatile Organic Compounds (VOCs). Most are solvents that have been used for cleaning equipment. These primarily include:

- Tetrachloroethene (PCE)
- Trichloroethene (TCE)
- Carbon tetrachloride
- 1,1-dichloroethene (1,1-DCE)
- Cis-1,2-dichloroethene (cis-1,2-DCE)
- 1,1,1-trichloroethane (TCA) and
- 1,1-dichloroethane (DCA)

Other chemicals that have been detected include:

- Polynuclear aromatic hydrocarbons (PAHs)
- Semi-volatile organic compounds (SVOCs),
- Polychlorinated biphenyls (PCBs)
- Petroleum hydrocarbons, (benzene, toluene, xylenes, ethylbenzene) and
- Metals

Can chemicals from Berkeley Lab affect my health?

In order for one's health to be affected by hazardous chemicals, one must be exposed to these chemicals either by breathing them, ingesting them, or by having contact with them through the skin. These routes of exposure are known as "pathways."

The investigations have shown that soil and groundwater contamination at the Berkeley Lab has not migrated offsite and that people are not drinking contaminated water. We have further looked at water running off the surface of the site through rainfall or through creeks and all samples have shown that the levels of chemicals leaving Berkeley Lab are not harmful. We found no pathway that exists that would have an adverse effect on the health of people living near Berkeley Lab. Nonetheless, cleanup remedies have been recommended in the CMS Report for soil and groundwater areas to meet state and/or federal standards.

What is the timetable for cleanup at Berkeley Lab?

Cleanup of areas that have been contaminated is a multi-step process. The areas that need to be addressed have been identified and investigated. Temporary cleanup measures have already been conducted at some areas. The final step is to determine the best way to clean each area and to begin the cleanup. The document evaluating final cleanup methods, called the Corrective Measures Study Report, or CMS Report, will then be available to the public and other agencies for their review and comment for a 45-day period, expected sometime in late 2004 to early 2005. A fact sheet will be sent to community members to announce the availability of the draft CMS Report and to let people know how to submit their comments. After all comments have been received, DTSC will make a decision on the best cleanup alternative for each soil and groundwater location. Following DTSC approval, cleanup measures will be put in place.

How has the Lab planned for accidents, due to fire or earthquakes?

Berkeley Lab's Environment, Health & Safety Division works with the Laboratory's scientific divisions to ensure the protection of workers, the public, and the environment. Fire and earthquake related concerns are taken into account in the design of all buildings, and periodic safety reviews are performed. Berkeley Lab also has emergency plans addressing various events such as fire and earthquake, and conducts periodic field drills in coordination with the City of Berkeley and the University of California, Berkeley. The purpose of this planning is to save lives and minimize injury, protect the environment and property, and return the Lab to normal operations as soon as possible, if a significant accident was to occur.

Am I protected when new construction activities or trucks create dust?

In order to prevent the unnecessary spread of dust into the environment, Berkeley Lab's standard construction practices involve tarping, or covering, of potentially contaminated materials or debris that is stockpiled onsite or hauled offsite.

How do I stay informed about environmental activities at Berkeley Lab?

DTSC strives to maintain frequent and open communication with community members. We would like community members to not only understand what is being done, but also to have input into the cleanup process.

Regular dialogue with other government agencies and community members is an essential element of this process. DTSC will keep the community informed of important milestones that are occurring regarding environmental cleanup by sending out fact sheets to people and organizations. Often these fact sheets will supply information on what is going on, and will list ways the public can participate in the process.

Prior to a public comment period, we also mail a notice of what documents can be reviewed and where these documents are located. In addition we place an advertisement in local newspapers. We also hold public meetings during public comment periods so community members can ask questions of staff and give their comments orally. These meetings are announced in the fact sheet and in local newspapers. Fact sheets and public notices will also be available on the DTSC website at www.dtsc.ca.gov/HazardousWaste/LBNL/index.html. Berkeley Lab also maintains web-based information about its environmental services and programs at www.lbl.gov/ehs/esg/.

If you think you are not on our mailing list and would like to be added, please contact the listed DTSC public participation specialist.

If I have questions, whom should I contact?

Department of Toxic Substances Control

For general information on this site, contact Nathan Schumacher, Public Participation Specialist, toll-free at 866-495-5651 or by e-mail at Nschumac@dtsc.ca.gov.

For specific project questions, contact Waqar Ahmad, Project Manager, at 510-540-3932 or by e-mail at Wahmad@dtsc.ca.gov.

For media inquiries, contact Angela Blanchette, Public Information Officer, at 510-540-3732 or by e-mail at Ablanche@dtsc.ca.gov.

Regional Water Quality Control Board

The San Francisco Bay Regional Water Quality Control Board is assisting the Department of Toxic Substances Control in the review of cleanup investigations at Lawrence Berkeley National Laboratory. The contact person at this agency is Michael Rochette, who can be reached at 510-622-2411, or by e-mail at mbr@rb2.swrcb.ca.gov.

Berkeley Lab

To contact Berkeley Lab directly, please call the Berkeley Lab Community Relations Office at 510-486-7292 or send an email to community@lbl.gov.